

**Eraldiseisvad kahekordsed metallist
pindadega kihilised
isolatsioonipaneelid. Tehasetooted.
Spetsifikatsioon**

Self-supporting double skin metal faced insulating
panels - Factory made products - Specifications

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14509:2006 sisaldab Euroopa standardi EN 14509:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 21.12.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14509:2006 consists of the English text of the European standard EN 14509:2006.</p> <p>This document is endorsed on 21.12.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies requirements for factory made, self-supporting, double skin metal faced insulating sandwich panels, which are intended for discontinuous laying in the following applications: a) roofs and roof cladding; b) external walls and wall cladding; c) walls (including partitions) and ceilings within the building envelope.</p>	<p>Scope: This European Standard specifies requirements for factory made, self-supporting, double skin metal faced insulating sandwich panels, which are intended for discontinuous laying in the following applications: a) roofs and roof cladding; b) external walls and wall cladding; c) walls (including partitions) and ceilings within the building envelope.</p>
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ICS 91.100.60

Võtmesõnad: packing, prefabri, prefabricated building components, rigid foam, roof construction, roof coverings, roofs, sandwich panels, sheet steels, specification (approval), specifications, steel sections, steels, structural steel work, wall construction, walls, verification

ICS 91.100.60

English Version

Self-supporting double skin metal faced insulating panels -
Factory made products - Specifications

Panneaux sandwichs autoportants, isolants, double peau
à parements métalliques - Produits manufacturés -
Spécifications

Selbsttragende Sandwich-Elemente mit beidseitigen
Metalldeckschichten - Werkmäßig hergestellte Produkte -
Spezifikationen

This European Standard was approved by CEN on 19 June 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 14509:2006) has been prepared by Technical Committee CEN/TC 128 "Roof covering products for discontinuous laying and products for wall cladding", the secretariat of which is held by IBN/BIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2007, and conflicting national standards shall be withdrawn at the latest by August 2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies requirements for factory made, self-supporting, double skin metal faced insulating sandwich panels, which are intended for discontinuous laying in the following applications:

- a) roofs and roof cladding;
- b) external walls and wall cladding;
- c) walls (including partitions) and ceilings within the building envelope.

The insulating core materials covered by this European Standard are rigid polyurethane, expanded polystyrene, extruded polystyrene foam, phenolic foam, cellular glass and mineral wool.

NOTE Polyurethane (PUR) includes polyisocyanurate (PIR).

Panels with edge details that utilize different materials from the main insulating core are included in this European Standard.

Panels used in cold store applications are included in this European Standard. Panels, put on the market as a component of a cold storage room, building and/or building envelope kit are covered by ETA-Guideline 021 "Cold storage premises kits".

This European Standard does not cover the following:

- i. sandwich panels with a declared thermal conductivity for the insulating core greater than 0,06 W/m·K at 10 °C;
- ii. products consisting of two or more clearly defined layers of different insulating core materials (multi-layered);
- iii. panels with perforated facing(s);
- iv. curved panels.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 485-2, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 2: Mechanical properties*

EN 485-4, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 4: Tolerances on shape and dimensions for cold-rolled products*

EN 502, *Roofing products from metal sheet — Specification for fully supported roofing products of stainless steel sheet*

EN 508-1, *Roofing products from metal sheet — Specification for self-supporting products of steel, aluminium or stainless steel sheet — Part 1: Steel*

EN 826, *Thermal insulating products for building applications — Determination of compression behaviour*

EN 1172, *Copper and copper alloys — Sheet and strip for building purposes*

ENV 1187, *Test methods for external fire exposure to roofs*

EN 1363-1:1999, *Fire resistance tests — Part 1: General requirements*

EN 1364-1:1999, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

EN 1364-2, *Fire resistance tests for non-loadbearing elements — Part 2: Ceilings*

EN 1365-2, *Fire resistance tests for loadbearing elements — Part 2: Floors and roofs*

EN 1396, *Aluminium and aluminium alloys — Coil coated sheet and strip for general applications — Specifications*

EN 1602, *Thermal insulating products for building applications — Determination of the apparent density*

EN 1607, *Thermal insulating products for building applications — Determination of tensile strength perpendicular to faces*

EN 1990, *Eurocode — Basis of structural design*

EN 1991, *Eurocode 1: Actions on structures (all parts)*

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10143, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

EN 10169-1, *Continuously organic coated (coil coated) steel flat products — Part 1: General information (definitions, materials, tolerances, test methods)*

EN 10169-2, *Continuously organic coated (coil coated) steel flat products — Part 2: Products for building exterior applications*

EN 10169-3, *Continuously organic coated (coil coated) steel flat products — Part 3: Products for building interior applications*

EN 10204, *Metallic products — Types of inspection documents*

EN 10326, *Continuously hot-dip coated strip and sheet of structural steels — Technical delivery conditions*

EN 10327, *Continuously hot-dip coated strip and sheet of low carbon steels for cold forming — Technical delivery conditions*

EN 12085, *Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

EN 12114, *Thermal performance of buildings — Air permeability of building components and building elements — Laboratory test method*

EN 12524, *Building materials and products — Hygrothermal properties — Tabulated design values*

EN 12865, *Hygrothermal performance of building components and building elements — Determination of the resistance of external wall systems to driving rain under pulsating air pressure*

EN 13162, *Thermal insulation products for buildings — Factory made mineral wool (MW) products — Specification*

EN 13163, *Thermal insulation products for buildings — Factory made products of expanded polystyrene (EPS) — Specification*

EN 13164, *Thermal insulation products for buildings — Factory made products of extruded polystyrene foam (XPS) — Specification*

EN 13165, *Thermal insulation products for buildings — Factory made rigid polyurethane foam (PUR) products — Specification*

EN 13166, *Thermal insulation products for buildings — Factory made products of phenolic foam (PF) — Specification*

EN 13167, *Thermal insulation products for buildings — Factory made cellular glass (CG) products — Specification*

CEN/TS 13381-1, *Test methods for determining the contribution to the fire resistance of structural members — Part 1: Horizontal protective membranes*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roofs tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 14135, *Coverings — Determination of fire protection ability*

EN ISO 140-3, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements (ISO 140-3:1995)*

EN ISO 354, *Acoustics — Measurement of sound absorption in a reverberation room (ISO 354:2003)*

EN ISO 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:1996)*

EN ISO 1182, *Reaction to fire tests for building products — Non-combustibility test (ISO 1182:2002)*

EN ISO 1716, *Reaction to fire tests for building products — Determination of the heat of combustion (ISO 1716:2002)*

EN ISO 6946, *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method (ISO 6946:1996)*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 9445, *Continuously cold-rolled stainless steel narrow strip, wide strip, plate-sheet and cut lengths — Tolerances on dimensions and form (ISO 9445:2002)*

EN ISO 10211-1, *Thermal bridges in building construction — Heat flows and surface temperatures — Part 1: General calculation methods (ISO 10211-1:1995)*

EN ISO 10211-2, *Thermal bridges in building construction — Calculation of heat flows and surface temperatures — Part 2: Linear thermal bridges (ISO 10211-2:2001)*

EN ISO 10456, *Building materials and products — Procedures for determining declared and design thermal values* (ISO 10456:1999)

EN ISO 11654, *Acoustics — Sound absorbers for use in buildings — Rating of sound absorption* (ISO 11654:1997)

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test* (ISO 11925-2:2002)

ISO 12491, *Statistical methods for quality control of building materials and components*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

- 3.1**
auto-adhesion
self adhesion of the core to the face(s) occurring automatically without the use of an adhesive
- 3.2**
bond, bonding
adhesion between the face(s) and the core normally provided by an adhesive
- 3.3**
ceiling
covering over an internal area
- 3.4**
core
layer of material, having thermal insulating properties, which is bonded between two metal faces
- 3.5**
durability
ability of the panel to withstand the environmental effects and accommodate the consequent decrease in mechanical strength with time caused by factors such as temperature, humidity, freeze-thaw cycles and their various combinations
- 3.6**
edge, longitudinal edge
side of the panel where adjacent panels join together in the same plane
- 3.7**
face, facing
flat, lightly profiled or profiled thin metal sheet firmly bonded to the core
- 3.8**
flat facing
facing without any rolled or pressed profile, or raised strengthening rib
- 3.9**
joint
interface between two panels where the meeting edges have been designed to allow the panels to join together in the same plane

NOTE 1 The joint may incorporate interlocking parts that enhance the mechanical properties of the system as well as improving the thermal, acoustic and fire performance and restricting air movement.